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Noise calculation program and Norwegian – Latvian cooperation project at Âdaži Training Field

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- Background
- Government’s Environmental Protection Policy
- MILSTØY – Norwegian Defence Noise Calculation Program
- Âdaži Training Field

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Background

- Environmental awareness focused in the Defence Sector during late 1980's
- Report no 21(1992-93) to the Storting
  - First environmental action plan for the Defence
- Defence sector environmental action plan in 1998
- Action plan revised in 2002
- Environmental Management System implemented in the sector by the end of 2005

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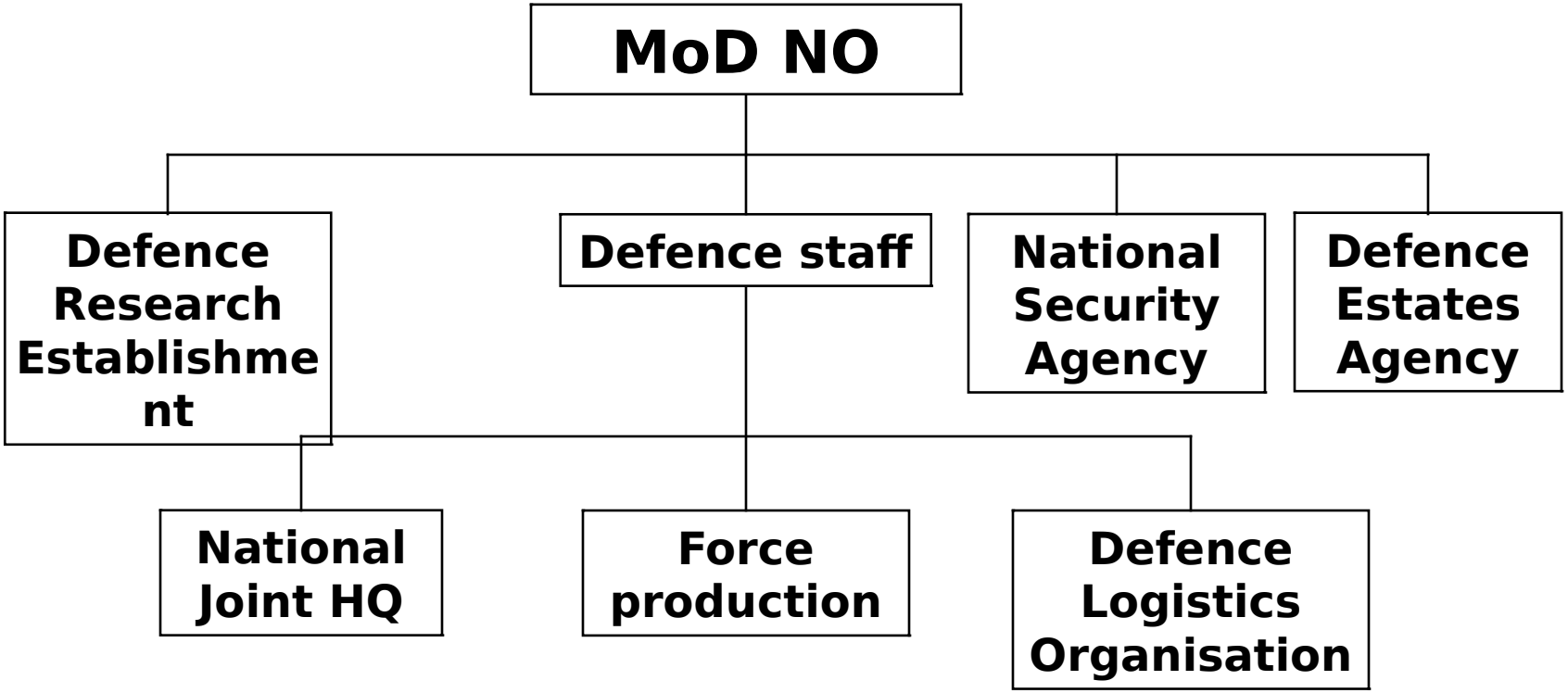

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Government's Environmental Protection Policy

- Conservation and sustainable use of biological diversity
- Outdoor recreation
- The cultural heritage
- Eutrophication and oil pollution
- Hazardous substances
- Waste and recycling
- Climate change, air pollution and noise
- International cooperation on environmental issues and environmental protection in the polar areas

New Norwegian Exercise Field – Regionfelt Østlandet

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Climate change, air pollution and noise

- Climate
- Depletion of the ozone layer
- Long-range air pollution
- Local air quality
- Noise
  - *Noise emission from the Defence's activities are to be prevented and reduced to take account of the requirements of human health and welfare*

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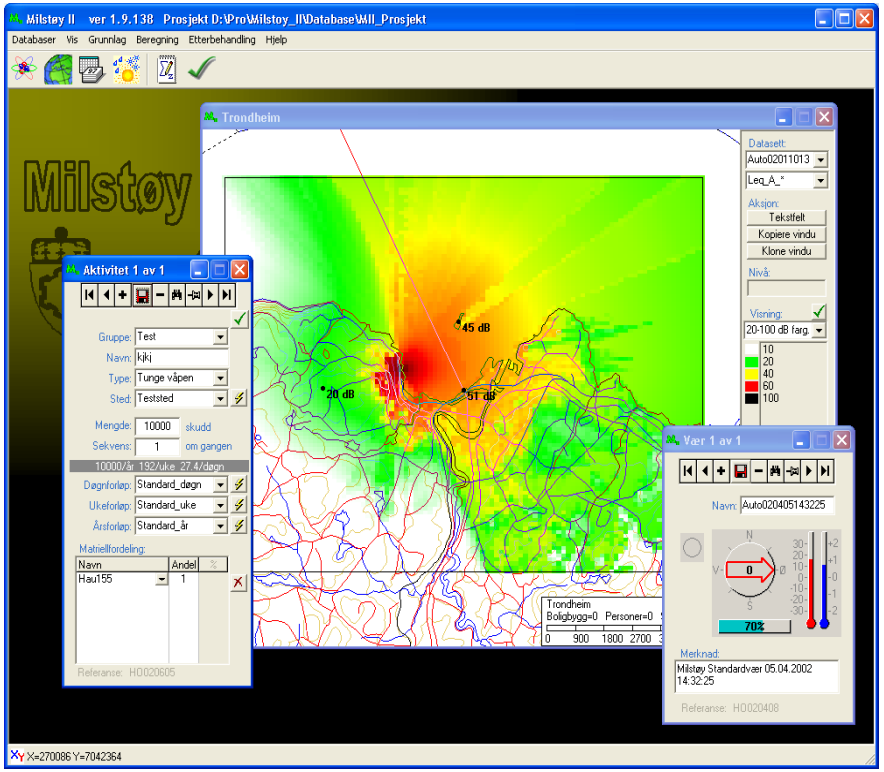
MILSTØY – Norwegian Defence Noise Calculation Program

- Developed by SINTEF for Defence Estates Agency
- Enable the user to define a number of scenarios to be calculated
- May consist of any number of noise activities
- Simulations makes it easy to change conditions and scenarios
- Requirements: Source data
- Define:
  - Noise source(s)
  - Source position (on a map)
  - Quantity
  - Time distribution
  - Weather condition
- Presented as noise levels or noise contours/colour plots on map

MILSTØY

- Includes all noise sources
- Planning new shooting and exercise fields
- Planning noisy activities at existing fields
- Combined with other equipments; surveying noise emission
- Developed for areaplanning



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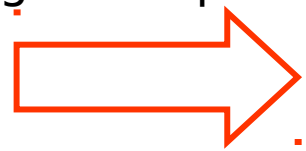
MILSTØY

Input:

- Source data
- Description of the activity
  - quantity
  - situation
  - time
- Digital maps



MILSTØY

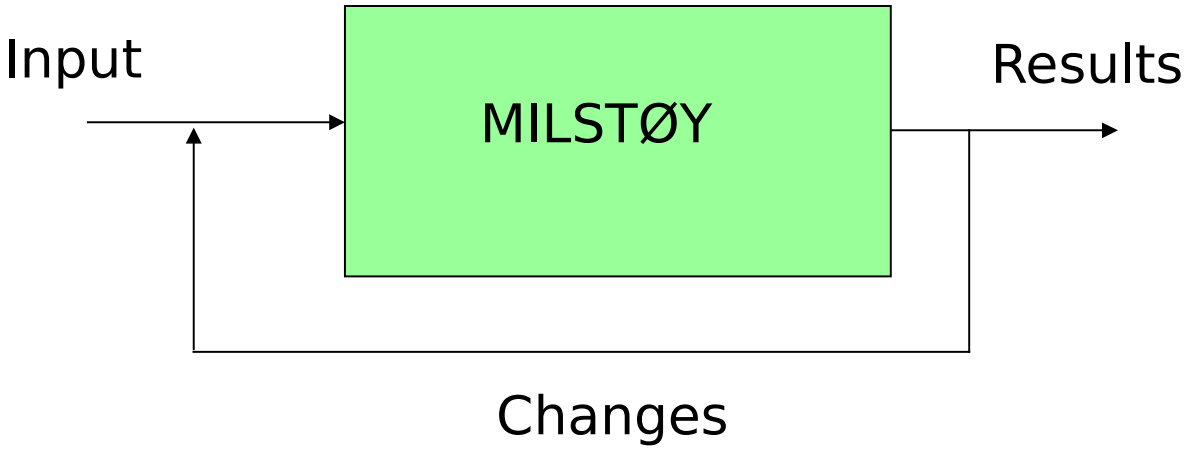
- Terrain (topography)
- Buildings
- Surface
- Forest
- Wind
- Temperature

Results:

- Noise zones
- Disturbance

MILSTØY

- Consequences from different alternatives
- Calculates most accurate
- Increases the potensial for actions/improvements



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Âdaži Training Field

- Norwegian – Latvian cooperation
- Participation in developing Âdaži Training Field
- Developing included disposition of space/area
- Support in construction and implementation of sub-projects,
  including noise calculation
- Aim: Avoid new housing areas to be established within noise zones close to the training feld
- Norwegian military noise competence:
  Norwegian Defence Estate Agency – Environmental and Cultural Heritage Department

MilNoise II ver 2.1.24() User: hca Project C:\Programfiler\Milstøy 2.1\MII_Latvia

Activity 2 of 62

Name: AG3
Group: Live_ammunition
Type: Lette våpen
Place: Stand_B1_1
Action:
Parameters: RETNI
Quantity: 1 shots
Sequence: 1 at a time
1/year 0.0192/week 0.00274/24 hours
24 hours Standard
Week Standard
Year Standard

Material distribution:

Name	Share	%
AG3M75s	1	100.0

Reference: hca040620

Weather 1 of 1

Name: Standard

70%

Remark: Standard_weather

Reference: hca040620

Map

Load topograp

Area Result
Data set: AG3_B1-B5
Limp_A_*
List of building
Sum buildings:
Level:
Layout:
Colour scale 1

40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120 125 130 135 140

latvia

44.9 dB
59.8 dB
64.9 dB
46.5 dB
62.6 dB
51.5 dB
46.2 dB

X= 28979 Y= 39065 Stand_B1_1 Scale 1:131000

Âdaži Training Field

- All results show calculation of maximum noise levels
- Calculation done with indicators:
  - Heavy weapons
  - Blast
  - Hand weapons
- Maps show noise levels in 5 dB steps
- Method of calculation: Nordic Industrial Method
  - Wind 3 m/s
  - Temperature gradient +0.65°C/100 m
  - Relative humidity 70 %
  - Temperature +15°C
- Non topographic included

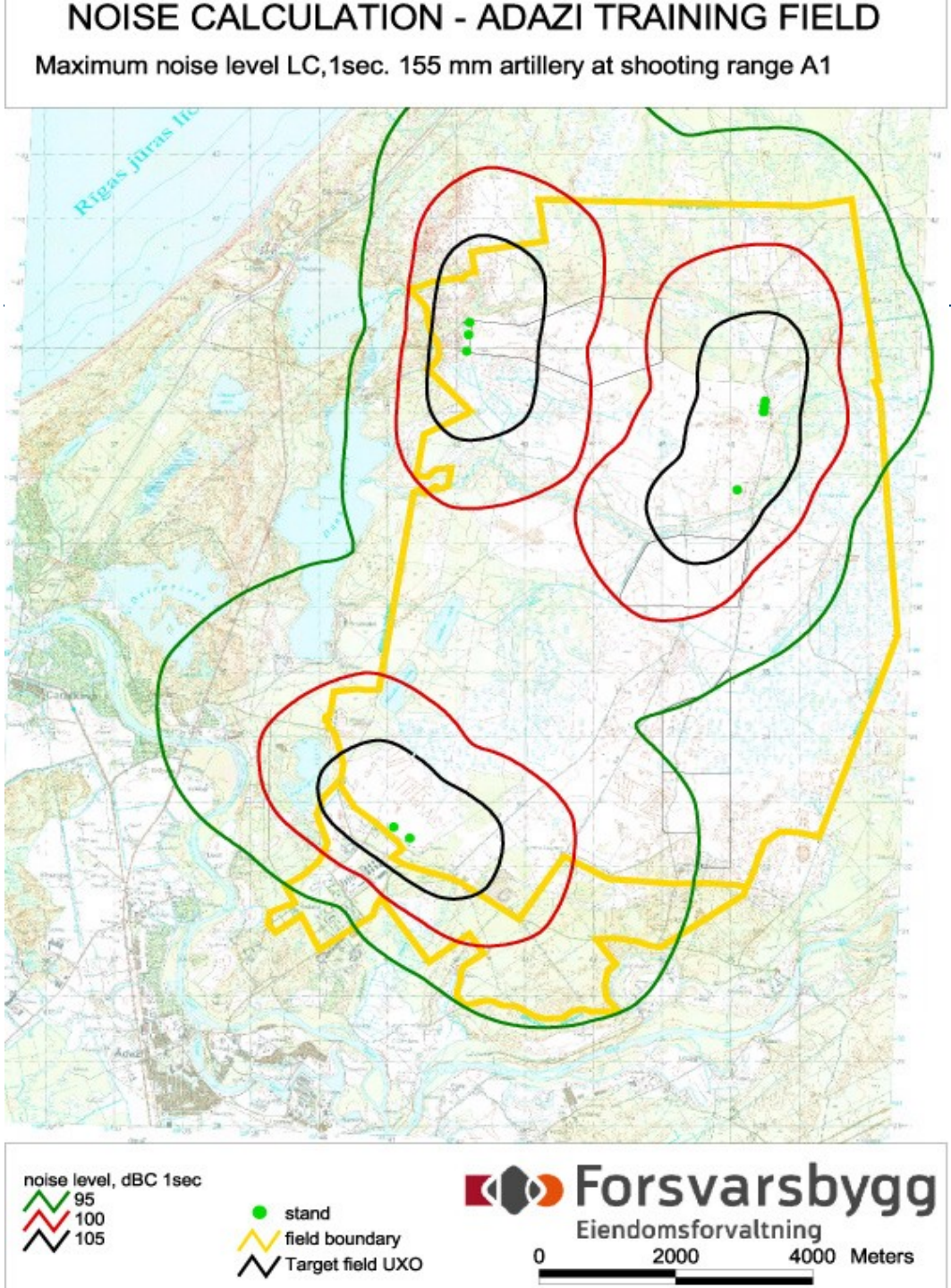
Âdaži Training Field

Results

- Calculation done for
  - Each weapon on every shooting range
  - All hand weapons (cal. <20mm)
  - Blasts

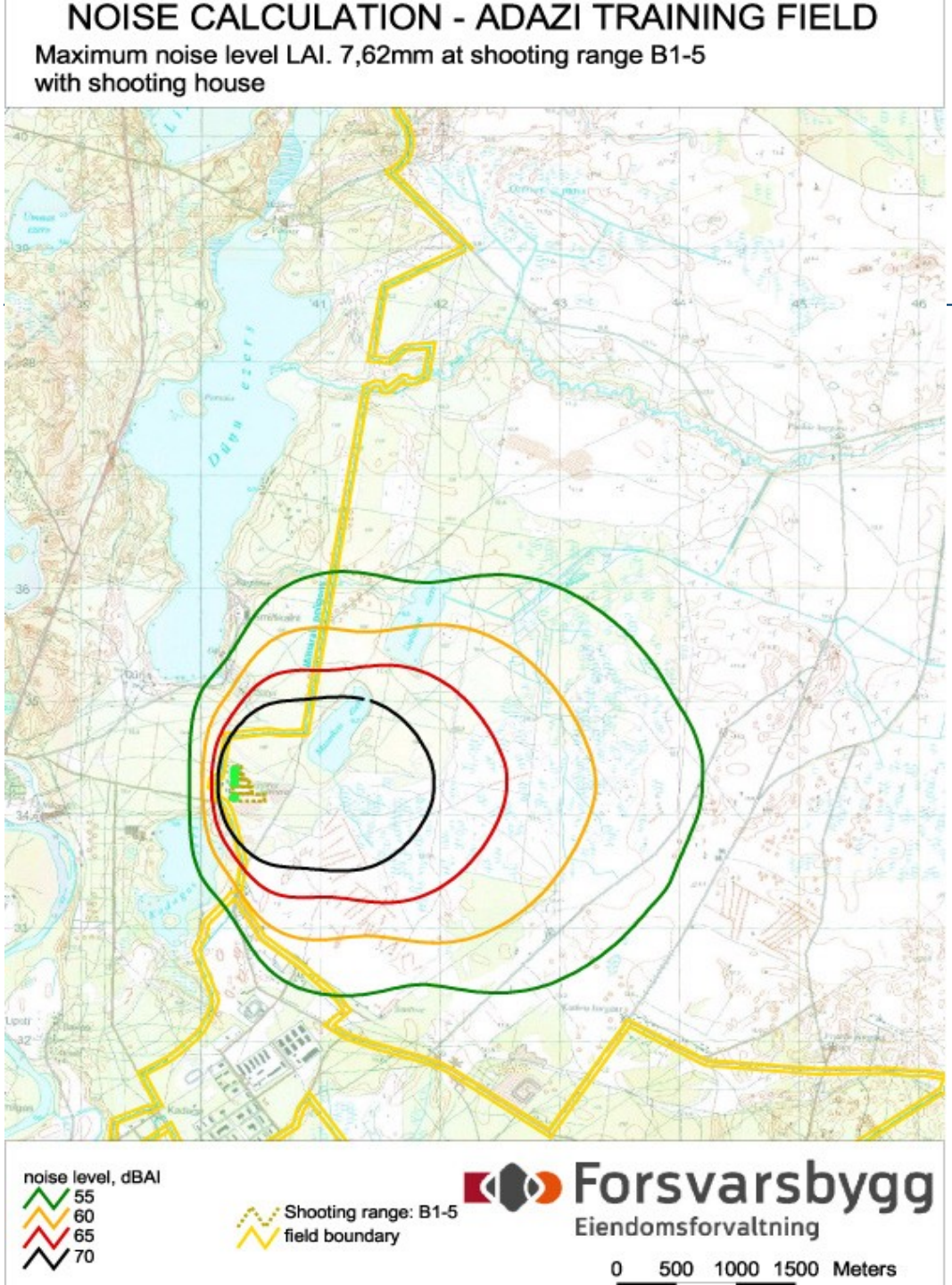
All heavy weapons and blasting

155mm artillery



Shooting House with noise reduction material (Norway)

7,62mm in shooting house



Leopard at Hjerkinn High Mountain Firing Range (Norway)